

ABSTRACT OF THE DISCLOSURE

Manufacturing lines include inspection systems for monitoring the quality of parts produced. Manufacturing lines for making semiconductor devices generally inspect each fabricated part. The information obtained is used to fix manufacturing problems in the semiconductor fab plant. A machine-vision system for inspecting devices includes a light source for propagating light to the device and an image detector that receives light from the device. Also included is a light sensor assembly for receiving a portion of the light from the light source. The light sensor assembly produces an output signal responsive to the intensity of the light received at the light sensor assembly. A controller controls the amount of light received by the image detector to a desired intensity range in response to the output from the light sensor. The image detector may include an array of imaging pixels. The imaging system may also include a memory device which stores correction values for at least one of the pixels in the array of imaging pixels. To minimize or control thermal drift of signals output from an array of imaging pixels, the machine-vision system may also include a cooling element attached to the imaging device. The light source for propagating light to the device may be strobed. The image detector that receives light from the device remains in a fixed position with respect to the strobed light source. A translation element moves the strobed light source and image detector with respect to the device. The strobed light may be alternated between a first and second level.